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TRANSMITTAL FORM <i>(to be used for all correspondence after initial filing)</i>	Application Number	10/618,024
	Filing Date	July 11, 2003
	First Named Inventor	Robert P. Vaudo, et al.
	Group Art Unit	TBA
	Examiner Name	TBA
Total Number of Pages in This Submission		Attorney Docket Number ATMI-661

ENCLOSURES (check all that apply)

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Remarks		

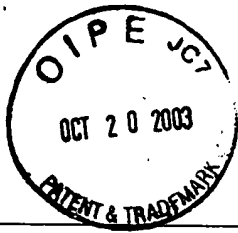
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Firm or Individual name	William F. Ryann, Reg. No. 44,313
Signature	
Date	10/15/03

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ATMI-661
CUSTOMER ID NO.: 25559

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Robert P. Vaudo, et al.

Group Art Unit: TBA

U.S. Application No.: 10/618,024

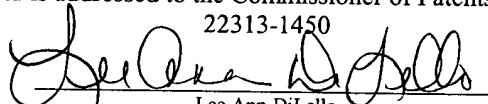
Examiner: TBA

Filed: July 11, 2003

Title: SEMI-INSULATING GAN AND METHOD OF MAKING THE SAME

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INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
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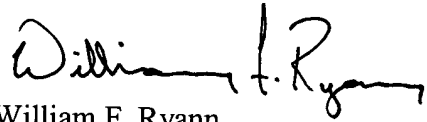
Sir:

Pursuant to 37 C.F.R. §1.56, the attention of the Patent and Trademark Office is hereby directed to the reference(s) listed on the attached PTO-1449. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the reference(s) be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

- ☒ 1. This Information Disclosure Statement is being filed within three months of the U.S. filing date OR before the mailing date of a first Office Action on the merits. No certification or fee is required in accordance with 37 CFR § 1.56 and § 1.97(b).

Applicant does not believe that any additional fee is due in connection with the foregoing. However, any deficiencies may be charged to the deposit account 50-0860.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "William F. Ryann". The signature is fluid and cursive, with a large initial "W" and a stylized "R".

William F. Ryann
Registration No. 44,313
Attorney for Applicant

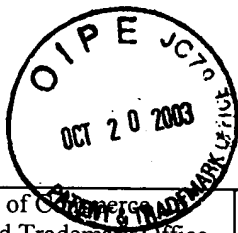
Date: 10-15-2003
Advanced Technology Materials, Inc.
7 Commerce Drive
Danbury, CT 06810
Agent Ref: ATMI-661



FORM PTO-1449		US Dept. of Commerce Patent and Trademark Office		ATTORNEY DOCKET NO. ATMI-661		SERIAL NO. 10/618,024	
INFORMATION DISCLOSURE STATEMENT (use several sheets if necessary)				APPLICANT Robert P. Vaudo, et al.			
				FILING DATE July 11, 2003		GROUP TBA	
U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		PATENT NUMBER	ISSUE DATE	NAME	CLASS	SUBCLASS	FILING/ PUBLICATION DATE IF APPROPRIATE
	BA	5,679,152	10/21/1997	Tischler, et al.			
	BB	6,156,581	12/5/2000	Vaudo, et al.			
	BC	6,440,823	8/27/2002	Robert P. Vaudo, et al.			
	BD	6,447,604	9/10/2002	Flynn, et al.			
	BE	6,488,767	12/3/2002	Xu, et al.			
	BF	6,533,874	3/18/2003	Vaudo, et al.			
	BG	20010008656		Tischler, et al.			7/19/2001
	BH	20010055660		Tischler, et al.			12/27/2001
	BI	20020028314		Tischler, et al.			3/7/2002
	BJ	20020068201		Vaudo, et al.			6/6/2002
	BK	6,596,079	7/22/2003	Vaudo, et al.			
FOREIGN PATENT DOCUMENTS							
		DOCUMENT NUMBER	PUBLICATION DATE	COUNTRY	CLASS	SUBCLAS S	TRANSLATION YES NO
							X (abstract only)
OTHER DOCUMENTS (Including Author, Title, Journal-Date, Page Number, Etc.)							
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	AA	6,273,948 B1	8/14/2001	Porowski, et al.			
	AB	5,385,862	1/31/1995	Moustakas			
	AC	6,544,867 B1	4/8/2003	Webb, et al.			
	AD	5,686,738	11/7/1997	Moustakas			
	AE	6,261,931 B1	7/17/2001	Keller, et al.			
	AF	US 2002/0096692 A1					7/25/2002
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		DOCUMENT NUMBER	PUBLICATION DATE	COUNTRY	CLASS	SUBCLAS S	TRANSLATION YES NO
							X (abstract only)
OTHER DOCUMENTS (Including Author, Title, Journal-Date, Page Number, Etc.)							
	AG	Jerzy M. Langer, et al. "Transition-metal impurities in semiconductor and heterojunction band lineups", Physical Review B, Vol. 38, No. 11, pgs. 7723-7739, 15 Oct. 1988.					
	AH	T. Graf, et al., "The Mn ^{3+/2+} acceptor level in group III nitrides", Applied Physics Letters, Vol. 81, No. 27, pgs. 5159-5161, 30 Dec. 2002.					
	AI	Sten Heikman, et al., "Growth of Fe doped semi-insulating GaN by metalorganic chemical vapor deposition", Applied Physics Letter, Vol. 81, No. 3, pgs. 439-441, 15 July 2002.					
	AJ	H. Akinaga, et al., "Growth and characterization of low-temperature grown GaN with high Fe doping", Applied Physics Letters, Vol. 77, No. 26, pgs. 4377-4379, 25 Dec. 2000.					
	AK	H. Ofuchi, et al., "Fluorescence x-ray absorption fine structure study on local structures around Fe atoms heavily doped in GaN by low-temperature molecular-beam epitaxy", Applied Physics Letters, Vol. 78, No. 17, pgs. 2470-2472, 23 April 2001.					
	AL	U. Wahl, et al., "Direct evidence for implanted Fe on substitutional Ga sites in GaN", Applied Physics Letters, Vol. 78, No. 21, pgs. 3217-3219, 21 May 2001.					
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OTHER DOCUMENTS (Including Author, Title, Journal-Date, Page Number, Etc.)

AN	R. Heitz, et al., "Zeeman spectroscopy of the Fe ³⁺ center in GaN", Appl. Phys. Lett. 67 (19), pgs. 2822-2824, 6 Nov. 1995.
AO	J. Baur, et al., "Infrared luminescence of residual iron deep level acceptors in gallium nitride (GaN) epitaxial layers", Appl. Phys. Lett. 64 (7), pgs. 857-859, 14 Feb. 1994.
AP	R.Y. Korotkov, et al., "Optical properties of the deep Mn acceptor in GaN:Mn", Applied Physics Letters, Vol. 80, No. 10, pgs. 1731-1733, 11 March 2002.
AQ	J.B. Webb, et al., "Semi-insulating C-doped GaN and high-mobility AlGaIn/GaN heterostructures grown by ammonia molecular beam epitaxy", Applied Physics Letters, Vol. 75, No. 7, pgs. 953-955, 16 Aug. 1999.
AR	N.I. Kuznetsov, et al., "Insulating GaN:Zn layers grown by hydride vapor phase epitaxy on SiC substrates", Applied Physics Letters, Vol. 75, No. 20, pgs. 3138-3140.
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AT	R. Heitz, et al., "Excited states of Fe ³⁺ in GaN", Physical Review B, Vol. 55, No. 7, pgs. 4382-4387, 15 Feb. 1997.